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cont. a rotor arranged at a side of an inner periphery of said stator with a rotation air gap;

said rotor having plural permanent magnet insertion holes arranged circumferentially in a ring-shaped arrangement, permanent magnets embedded in said plural permanent magnet insertion holes to provide a reversed polarity alternatively, and auxiliary magnetic pole portions provided between two adjacent plural permanent magnets, wherein

a magnetic air gap is provided in both sides of a peripheral direction of said plural permanent magnets,

thereby a change in a magnetic flux density between said plural permanent magnets and said auxiliary magnetic pole portions is formed smoothly and a cogging torque is restrained.

19. (Twice Amended) A permanent magnet electric rotating machine comprising:

a stator; and

a rotor arranged at a side of an inner periphery of said stator with a rotation air gap;

said rotor having plural permanent magnet insertion holes arranged circumferentially in a ring-shaped arrangement, permanent magnets embedded in said plural permanent magnet insertion holes to provide a reversed polarity alternatively, auxiliary magnetic pole portions provided between two adjacent

plural permanent magnets, and magnetic pole piece portions arranged between said

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plural permanent magnets and said stator, wherein

a magnetic air gap is provided between said auxiliary magnetic pole portions and said magnetic pole piece portions,

thereby a change in a magnetic flux density between said plural permanent magnets and said auxiliary magnetic pole portion is formed smoothly and a cogging torque is restrained.

26. (Amended) A permanent magnet electric rotating machine comprising:

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a stator; and

a rotor arranged at a side of an inner periphery of said stator with a rotation air gap;

said rotor having plural permanent magnet insertion holes arranged circumferentially in a ring-shaped arrangement, permanent magnets embedded in said plural permanent magnet insertion holes, and auxiliary magnetic pole portions provided between two adjacent plural permanent magnets, wherein

a magnetic air gap is provided in both sides of a peripheral direction of said plural permanent magnets,

thereby a change in a magnetic flux density between said plural permanent magnets and said auxiliary magnetic pole portions is formed smoothly and a cogging torque is restrained,

wherein each of said plural permanent magnets extends substantially the entire axial length of said rotor.

27. (Amended) A permanent magnet electric rotating machine comprising:

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a stator; and

a rotor arranged at a side of an inner periphery of said stator with a rotation air gap;

said rotor having plural permanent magnet insertion holes arranged circumferentially in a ring-shaped arrangement, permanent magnets embedded in said plural permanent magnet insertion holes, auxiliary magnetic pole portions provided between two adjacent plural permanent magnets, and magnetic pole piece portions arranged between said plural permanents magnets and said stator, wherein

a magnetic air gap is provided between said auxiliary magnetic pole portions and said magnetic pole piece portions;

wherein each of said plural permanent magnets extends substantially the entire axial length of said rotor,

thereby a change in a magnetic flux density between said plural permanent magnets and said auxiliary magnetic pole portion is formed smoothly and a cogging torque is restrained.

REMARKS

Reconsideration and allowance of this application are respectfully requested in view of the above amendment and the discussion below.